AirLand Battle-Future--A Hop, Skip, or Jump?

A Monograph
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ABSTRACT

AIRLAND BATTLE-FUTURE—A HOP, SKIP, OR JUMP?
By MAJ Jeff W. Karhohs, USA, 53 pages.

This monograph examines the moral domain of AirLand Battle-Future. The focus is on the nature of combat at the tactical level. Military tactics have traditionally been, first and foremost, a contest of wills. Any battle, past, present, or future will reveal that moral qualities vary greatly and cannot be critically analyzed with any degree of certainty. The ultimate purpose of this paper is not merely to describe and analyze the human component, but to persuade the reader that success in battle depends upon a warfighting concept that properly brings into harmony doctrine, technology, and people.

The monograph begins with an overview of AirLand Battle-Future, its future direction, and briefly, some of its initiatives. An historical account about a small, but sharp, action in the early weeks of the Korean War is offered to help visualize the nonlinear battlefield at the tactical level. Once this groundwork is laid we begin to examine the moral domain by comparing and contrasting Airland Battle with AirLand Battle-Future.

The monograph's critical analysis will look at how combat power is generated in AirLand Battle-Future. The criteria framework for this analysis is The Combat Power Model. As various moral considerations are offered and examined, it is difficult to ascertain a clear answer regarding the successful application of AirLand Battle-Future. Nevertheless, there are indicators to caution those proponents of the new concept to not disregard or underplay the significant moral issues dicussed within. The paper offers no solutions to improving the AirLand Battle-Future concept. Rather, it concedes some "nuggets" and key issues for further study and dialogue. Hopefully, it does raise more questions about the viability of the new concept.

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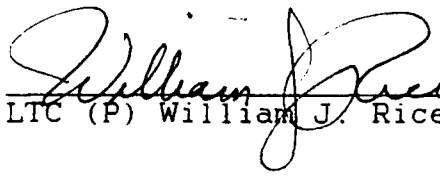

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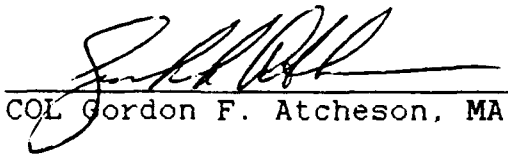

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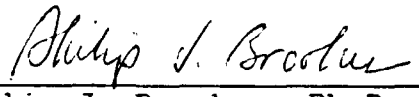

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In War the Moral is to the Material as Three to One
Napoleon

The formula for winning tomorrow's wars has become more complex. The truth of the matter can be readily seen in the physical and psychological aspects of war.[1] Consider the three fundamental influences on battle: weather, terrain, and human exertion. Modern armies almost discount such friction when they plan for battle believing that material advancements and improved organization and control will overcome these obstacles. Where friction does not succumb to our modern means and ways, then we look to leadership to be friction's equalizer. This is our formula for winning. Victory appears to be made easier because we are being lulled into accepting contemporary concepts and ideas which really provide only hollow military solutions when they do not take full account of the moral aspects of war.

Moral effects are paramount to understanding war. Carl von Clausewitz reminds us that "moral factors constitute the spirit that permeates war as a whole."[2] He also notes that the psychological aspects of battle result from the same causes as the physical aspects of friction, concluding that the loss of morale is the decisive factor for total victory in the engagement.[3]

The Army's warfighting manual, FM 100-5 Operations, proceeds to explain how the Army was to win the next war. Touted as a new American approach to warfare, it has been well received in the

military community and has earned a reputation as an outstanding field manual. In execution, the concept of AirLand Battle was to mean "nothing more (or less) than fighting smart using every element of combat power from psychological operations to nuclear weapons to defeat the enemy."[4]

Thus, the U.S. Army possesses a manual for all seasons, one that can adapt itself in large measure to the continuum of conflict. Its emphasis and its most common source of criticism today comes from a focus too directed at the NATO arena. The forces motivating change have again been unleashed, and one can argue that the debate over how we must resource, organize, train, and fight our Army will alter significantly the character and content of FM 100-5, Operations, in this decade.

Fundamentally, the doctrinal improvements that will be made in the next ten to twenty years must continue to factor in the human dimension using today's FM 100-5 as its reference point. This emphasis should continue to expand in any new fighting manual if for no other reason than because the pool of human resources will continue to undergo substantive change.

> The soldier of today must make a more radical transition from habits appropriate to his civilian environment to those demanded by modern war. While the harshness of war has increased to some extent, the modern soldier still faces physical burdens and demands on his courage similar to those always faced by soldiers. However, the civilian environment from which he comes prepares him less and less for war. The rigors of outdoor life and the bonds of community which are still key to military life are not now part of civilian society.[5]

The American man or woman who will join the ranks of tomorrow's Army will be a product of societal changes. Americans

have come to expect short conflicts with minimum casualties. To the student of military art, this is not the flavor of war. Americans, unfortunately, are becoming too many generations removed from remembering World War II, Korea, and even Vietnam. This reality sends a clear message that our approach to war will need to address the human dimension in more depth than heretofore seen. Brigadier General Huba Wass de Czege drew two conclusions from his insight about this changing human condition.

First, there is the problem of soldiers becoming more intractable to cultural and social influence than technology. This he notes is a "truly novel turnabout in the course of the history of warfare" for it means "fitting technology to soldiers rather than vice versa."[6] Second, there is the hidden cost any future warfighting concept adds to its doctrine in attempting to deal with a more complex battlefield. Invariably it will "add new tools of battle—more things to keep track of and fit into battlefield schemes."[7]

This monograph's proposition is that unless we accentuate the human factor, that is, unless we take into account the diverse interactions of soldiers, leaders, and the American society, the ability to accomplish many of the features envisioned in any future doctrine will be highly suspect. FM 100-5 deliberately brings the components of soldiers, weapons, and doctrine into harmony.[8] Though its doctrinal applications principally focus on NATO, thereby producing a linear mind set, it prominently highlights the psychological or human dimension of war. This

emphasis cannot be overlooked as the future concepts evolve. The human heart, to quote Marshall de Saxe, is then the starting point in all matters pertaining to war.[9]

Follow-Me!

This paper attempts to further the dialogue of evaluating the Army's doctrinal evolution. Sound doctrine is often the least expensive and most effective way to increase an army's fighting effectiveness.[10] Wass de Czege offers three main features of a successful doctrine.[11] First, doctrine must not deviate from those principles that have withstood the test of time and battle. Second, it must provide direction for change; and third, it must consider the moral domain of combat. Above all, it should not demand things of our soldiers which cannot be executed in war.

This monograph is organized into five sections. Part One leads with an overview of AirLand Battle-Future (ALBF): its genesis from AirLand Battle (ALB), its future direction, and, briefly, some of its initiatives. Part Two looks at an historical account to help visualize the nonlinear battlefield at the tactical level. Part Three sets the conditions for the paper's analysis by focusing on those ALBF implications within the moral domain: the issues in transitioning from ALB to ALBF, the issues on a nonlinear battlefield, and the moral tradeoffs between linear and nonlinear battle. Part Four begins the monograph's critical analysis, with a look at how combat power is generated in ALBF. Part Five is this paper's analysis using a framework for assessing combat power as the criteria.

PART I

Tomorrow's AirLand Battle

The scope of this monograph is, therefore, directed at the moral domain as our doctrine transitions to ALBF. To the author, the moral domain is the weak link between concept and execution. Forward-looking professional perspectives abound in the cybernetic and physical domains—redirecting our Army to meet a variety of situations and challenges on tomorrow's battlefield. However, the moral domain is not addressed to any great extent in either of two recent official drafts about the ALBF concept.[12] Thus, the purpose of the study is to determine whether, in light of impacts and influences from the moral domain of battle, it is reasonable to expect successful application of ALBF.

The monograph will show that the moral dimension itself entails nonlinear operations. To see clearly why this is so, one must look at nonlinearity as manifested in the domains of battle. Clearly, the physical domain characterizes nonlinear operations. Even on the densest battlefield, concentrations of forces in one sector will always create gaps in another sector because of the principle of economizing forces in one area in order to weight the main effort elsewhere. From another perspective, Sun Tzu saw nonlinearity as "the ultimate in disposing one's troops. . .to be without ascertainable shape" on the battlefield.[13] The second domain is cybernetic. In this domain nonlinearity is evidenced by today's stress on maintaining tempo through initiative and decentralized control. Finally, the less conspicuous moral

domain's influence on the nonlinear environment can be grasped in a quote from Clausewitz:

> As an engagement unfolds, opponents are faced with some factors that increase their strength and with others that reduce it. The question therefore is one of <moral> superiority. Every reduction in strength on one side can be considered an increase on the other. It follows that this two-way process is to be found in the attack as well as in defense.[14]

Clausewitz describes this as ascending to moral superiority.

Sure Azimuth to ALBF or Dead Reckoning?

Professor Michael Howard spoke these words about the challenges of soldiering:

> A soldier . . . in peacetime is like a sailor navigating by dead reckoning. You have left the terra firma of the last war and are extrapolating from the experiences of that war. Occasionally there is a break in the clouds: a small scale conflict occurs somewhere and gives you a "fix" by showing whether certain weapons and techniques are effective or not; but it is always a doubtful fix. The problems of transferring the experiences of conflicts past (ALB) to the kind of conflict one is preparing (ALBF) is a very complex one indeed.[15]

Given ALBF, we can begin to postulate those moral changes affecting the soldier component by linking them with the changes brought about by ALB. These changes include: improved unit cohesion; improved institutional training; and expanded education for officers, noncommissioned officers, and recruits; and improved unit and individual training.

Professor Howard's caution is that new concepts generate a fixation on technology and weapons at the expense of the soldiers. The implication is that future doctrine has the potential to out distance the ability of soldiers to adjust.

Impressions of AirLand Battle Future—Battle Trends

This section introduces the reader to the ALBF concept. Later in this monograph, under the section titled, "The Generation of Combat Power," there will be additional features described about this concept. Described below are three ALBF trends to offer the reader some "feel" for the kind of changes that will take place in future combat and perhaps stimulate some thought as to how the human component will respond or need to adapt.

First, a new term emerges which characterizes future operational maneuver— distributed-free maneuver (DFM).[16] DFM depicts how combat units will be responding to the trend of battlefields becoming primarily nonlinear in character. For the past forty years, U.S. military power was wedded to the defense. Central to our strategy was our focus on safeguarding and maintaining border integrity for both western Europe and south Korea. Today this strategy is no longer of military value— certainly in Europe and probably for Korea within a few years. For our Army, these two theaters of war require new strategies and new approaches to conducting warfare given U.S. forces which are no longer forward deployed in significant numbers. We appear to be headed toward a contingency force Army with substantial forced entry capability and rapid deployability. Without our defensive strategy, future operational maneuver projects forces fighting in a nonlinear environment. Once a staging base or beach/air head is established, all operations become distributed. Doctrine no longer predicates prepositioned, large forces, whose few functions

are to absorb the initial thrust of an overwhelming enemy attack and conduct linear operations reestablishing border lines.

Therefore, the trend of future combat is DFM. DFM contrasts with concentric maneuver and concentrated maneuver in a view similar to Delbruck's comparison of strategies—exhaustion and annihilation.[17] DFM is oriented on positioning whereby a series of distributed battles is fought with corresponding dispersed expenditures of combat force in space and time.[18] In sum, it offers a strategy of exhaustion. Concentrated and concentric maneuver are both essentially single battle oriented; hence a concentrated expenditure of combat force in space and time.[19] In sum, they embody a strategy of annihilation.

The second major trend is near-revolutionary knowledge of the enemy. This is technology's greatest potential. The potential of knowing where the enemy is eliminates, to a large degree, the costs of maneuvering toward gray objectives.[20] Valuable combat power will not be committed to the wrong point on the battlefield. Only those targets which make the operational concept successful will be destroyed. Today we have the capability to know where major elements of the enemy are most of the time. In the future, this field will dramatically improve.[21]

Finally, very long-range lethality will permit engagement of targets at ranges in excess of 100 kilometers. The capability exists now to engage the enemy at relatively long ranges (>30 km) with high accuracy and lethality. The future holds significant improvements in all aspects of our indirect fire systems.

PART II

> **History provides the strongest proof of the importance of moral factors and their often incredible effect. This is the noblest and most solid nourishment that the mind of a General may draw from a study of the past.**
> ***Clausewitz***

The Ties That Bind

To get a good handle on the relationship of the moral domain to nonlinear operations, one can look at the early experiences of the 27th Infantry Regiment (Wolfhounds) in Korea from 10 June to 1 September 1950. The horrible combat experiences of Task Force Smith had only recently concluded as the Wolfhounds arrived on 10 June 1950.[22] Operationally, the battlefield had now become an ever-tightening perimeter around Pusan. The numerous gaps in the defense characterized the nonlinearity of this "Pusan Perimeter". The nonlinear activity of maneuvering units saw incessant and improvised shifting of troops to meet one North Korean (NK) incursion after another.[23] The Wolfhounds' first week in theater saw no fewer than four major displacements across the Pusan pocket to check the NK advances.[24]

The 27th Infantry's baptism of fire on 23 - 25 July reflected the nonlinear style of battle the regiment would fight for the next three months and the moral challenges these battles presented. The Wolfhounds were put into a blocking position to stop another NK thrust that had caused a decimated Republic of Korea (ROK) unit to retreat.[25] The regiment formed an isolated battle position (not tied in with adjacent units), with its two battalions in depth along the expected enemy avenue of approach.

The forward battalion, unable to obtain any information about the size of the closing North Korean force, sent a patrol (platoon size) that evening to locate the enemy. Within hours, the patrol located an NK column and engaged with such violence of fire that the enemy believed it had encountered a major position and delayed the column's advance until daylight.[26] Upon enemy withdrawal, the patrol returned to its battalion and joined preparation for the ensuing attack. At 240630 July, in heavy fog, the enemy approached the Wolfhounds' forward battalion with tanks and infantry. Before too long, the Wolfhounds had stripped the infantry supporting the tanks, but saw the tanks penetrate their positions.[27] As the infantry fight was in progress, and shortly after the first tank penetration, the battalion commander called for an air strike. Three F-80 jet planes at this propitious moment destroyed three of five T-34s supporting the NK attack. In close combat, bazooka fires destroyed another three tanks.[28]

Because of the fluid situation with its lead battalion, the Regimental Commander, Colonel John H. "Mike" Michaelis, withdrew the unit at night through the battalion to its rear to prevent its encirclement.[29] Catching the enemy unawares of this displacement, the Wolfhounds caught two enemy battalions trying to conduct a double envelopment of the lead battalion's previous location.[30] By the combined fire of tanks, artillery, mortar, and small arms fire, the NK suffered severely in this action.[31]

The Struggle for Moral Ascendancy

It would be a serious misunderstanding of the monograph's

argument to think that the Wolfhounds fought an engagement unique to nonlinear warfare. The point of this historical reflection is to illustrate how nonlinear moral forces interacted throughout this action. The key combat sequences occurred at night or during periods of limited visibility. At night, no one can see, and no one cares to trust himself to chance.[32] Also, Col. Michaelis and every soldier below him could only estimate their success, in terms of ground won or lost, and in their relative security (they held an isolated position and faced an enemy constantly probing for gaps and a means to envelop them). The true lesson from the Wolfhounds' nonlinear battle is in the measure of moral victory.

To evaluate the moral domain at the tactical level of nonlinear engagement, two military theorists offer insights into the moral factors at play in the Wolfhound action. Clausewitz would find this example counter to his view of linear warfare's moral component, citing loss of ground as one of two indicators applying to loss of morale.[33] In the nonlinear arena, ground takes on a different relationship with the soldier, for he cannot measure success or failure in its gain or loss. The ground he holds is only a "temporary" place of destruction. However, absent this "anchor" there are other palpable effects which motivate staunch soldiers.[34] Marshall Saxe would caution, though, that no matter how tenacious or hardened a soldier or a unit may be, "the courage of the troops must be reborn daily."[35]

Physical casualties were not the only losses Col. Michaelis had to ponder. His unit's moral strength had reached an

ascendancy by having defeated a larger enemy force in its first taste of battle. Moreover, his soldiers, after fighting successfully, were far from being what they were before the action. The unit had been "bloodied." Clausewitz reminds us "that every engagement is a bloody and destructive test of physical and moral strength. Whoever had the greater sum of both left at the end is the victor."[36]

PART III

ALBF Implications: Transitioning from ALB to ALBF

AirLand Battle doctrine in FM 100-5 has always taken a nonlinear view of battle.[37] Of note, ALB and ALBF differ little as concepts in emphasizing a stable body of operational and tactical principles and in providing a foundation for developing and improving our tactics, techniques , and procedures. Where they differ is how each concept should be executed. For example, both concepts hold sacrosanct the tenets— initiative, depth, agility, synchronization. However, appendix A contrasts some subtle and more obvious differences between ALB and ALBF tenets. Differences can also be seen in how ALB and ALBF express their approach to fighting. ALB is the balance of firepower and maneuver while stressing an offensive spirit to seek and defeat the enemy using large and small unit operations. Contrast this to ALBF which touts a near universal offensive spirit. In ALBF the enemy is rapidly identified, isolated, and dispatched with unprecedented speed and firepower. There is far less emphasis on balancing the forces of firepower and maneuver. The former

carries the weight of the battle.

In sum, ALB doctrine has always represented an approach to nonlinear combat at both the tactical and operational levels. It provides the coordinated employment of all arms, all services, with a means of support.[38] Why, then, the need for ALBF?

To the authors of FM 100-5, "the AirLand Battle means nothing more (or less) than fighting "smart" using every element of combat power from psychological operations to nuclear weapons to defeat the enemy."[39] It is a thinking man's war; not reactive, but setting conditions at the operational level and shaping the battlefield at the tactical level for victory. Thinking smartly has moral domain implications. This is Clausewitz's "powers of intellect."[40] A key point is that ALBF takes this concept of thinking smartly one step further.

To understand this point, one may contrast boxing with judo in describing the difference between the ALB and ALBF mindsets.[41] To box is to deliver a series of blows while withholding a decisive punch to annihilate one's opponent. During a round, most activity finds both boxers weaving and bouncing rather than exchanging blows. Each boxer swings or jabs only when there is an opportunity. This characterizes linear warfare thinking. Judo, though, is a constant activity of positioning and out-psyching one's opponent. The art of judo is attempting to throw an opponent off balance by using his own momentum against him. The object is to win quickly and to overpower the enemy at a fraction of the bruce strength the latter may possess. This is nonlinear

warfare thinking. The implication of adapting to ALBF is that we ALB boxers must transform mentally to become black-belts in judo.

ALBF is a dynamic extension from ALB warfighting principles. ALBF seeks to maximize the untapped potential of ALB. It is maneuver warfare honed to a higher art form. A key shortcoming in ALB's view of warfare that had not reached full potential by 1990 was the capability to make a prompt transition from one type of operation to another, be it offense or defense. "Speed <rapidity> is the essence of war" wrote Sun Tzu.[42] ALB captures Sun Tzu's idea of taking advantage of the enemy's unreadiness, using indirect approaches to attack and swiftly striking him with a powerful blow.[43] Although not a recognized principle of war, rapidity captures the basic idea of *prompt transitioning* in nonlinear warfare. This concept of rapid maneuver (striking from an unexpected direction and then following up rapidly to prevent the enemy's recovery) had not reached in 1982 or 1986 the capacity we can realize today.[44] Only the tenet of agility in ALB held that potential energy for rapidity. ALBF offers the application of agility at its fullest kinetic potential because of new and soon-to-arrive sensors, communications and warfighting systems.

Given a horizon of technological improvements in warfighting materiel, future leaders must master four constraints that transcend from ALB to ALBF. The first constraint is that war will always be fought and won by people and not by machines.[45] This is no revelation, but it cannot be forgotten. Machines perform to standards within their design constraints. Men in combat seldom

perform to standard, being always subject to moral constraints.[46] The authors of FM 100-5 left a clear message to the authors of ALBF that "optimizing weapons effectiveness does not always optimize the effectiveness of soldiers."[47]

The second important constraint for ALBF leaders to be taken from ALB is that chaos on the battlefield will make centralized control of soldiers nearly impossible.[48] The trend will be to push leaders toward control. ALBF leaders will need to make quicker decisions than those imagined by the original authors of FM 100-5. Understandably, leaders want new technology to facilitate and accelerate their decision-making. Herein, though, lies the danger of a directed telescope with unbelievable width of view and magnification. Leaders must use technology to assist, not take over the art of command.[49]

The same technology that brings agility to its fullest potential also brings a myriad of command tools supporting rapid decision-making. For example, ALB doctrine features decentralized decision-making. "Auftragstaktik," although never formally adopted as doctrine, is a style of leadership that ALB recognizes as conducive to winning battles at the tactical level.[50] ALBF will demand that Auftragstaktik, if not in name, will be the rule and not the exception. In order that combined arms cooperate fully on the nonlinear battlefield, each element must understand the overall objective of the operation and know their own parts and those of adjacent/supporting forces if they are to fight effectively. Only the application of mission-oriented tactics

embody the muti-dimensional repetitive process of the ALBF combat cycle where quick decisions are preferred at both the operational and tactical levels. Technology offers opportunities to make Auftragstaktik practical because of rapid SITREP flow. Nevertheless, the same technology that leads to greater control will remain a dangerous constraint that crosses from the cybernetic domain into the moral domain's freedom of action, limiting the achievement of Auftragstaktik's full potential.

The third constraint is logistics. ALBF, like today's ALB, is prisoner to the quartermaster.[51] He has always held the keys to battle: where, when, duration, and outcome. Sustainment and moral issues are therefore inseparable. The soldier in war faces both physical and mental limits. The mental limits would be characterized by John Keegan, Ardant Du Picq, S.L.A. Marshall, et al., as derived largely from fear. Physical limits, though, can be attributed in large measure to logistics. Physical exhaustion results from noise, excessive heat/cold, inadequate sleep and food, poor living conditions, and inadequate equipment design. These shortfalls can be overcome by excellence in logistics given a doctrine that emphasizes the moral domain.

Logistics is <u>the</u> friction within any military machine which can cause success or failure in battle. Developing adequate doctrinal solutions to the logistical issues of a modern army is still ALB's greatest shortfall.[52] ALBF appears no more capable of dealing with these issues either. To its credit, ALB ensures the "shackles of the logistics system are felt more keenly."[53]

ALB's legacy to ALBF is not to conduct warfare with the technical means of one age and to keep it supplied with those of another.[54]

The final constraint can be seen as the "cybernetic character" of battle. In essence, future warfare will be complicated enough without a corresponding complicated ALBF doctrine. To their credit, ALB authors saw the need for more flexibility in operations and less need for cookbook (battlebook) formulas or prescriptions. ALB doctrine seeks to develop in officers the ability to quickly analyze the situation through the thoughtful application of principles. Yet, even for the consummate professional, there is already so much to know. For example, few officers can cite FM 100-5's ALB Imperatives. Yet, these ten historically based and essential requirements provide the parameters within which warfighting must be prosecuted.[55]

In contrast, the nonlinear approach to tactics and operations emphasizes a thought process that keeps battle principles only in perspective. It is not geared to concentrating on checklists of imperatives and functions.[56] ALBF recognizes the non-quantifiable elements of combat power but offers, at present, no form of battle calculus to gage time and space, or any relative measure of command and control. As the concept matures, it should capture much of the cybernetic character cited in ALB.

The bottom-line in this last constraint is that ALB doctrine maintains the moral domain as the prominent factor in its comprehensive view of modern warfare. The ALBF view of nonlinear warfare must maintain this same perspective.

The Expanding AirLand Battle

From his article, "Theory of the Empty Battlefield," Professor James Schneider looks at historical time and space patterns on the battlefield.[57] Schneider's thesis represents a critical analysis of the interactions between the physical and moral domains, relating the changes in battlefield arrangements to command and control considerations. This impact of the changing conditions of war is pertinent in the evolution from ALB to ALBF. Combat forces will fight widely dispersed on the ALBF battlefield. Schneider's historical patterns of increasing dispersion coupled with increasing weapon lethality brought to light a paradox showing a decline in relative casualties. The moral implications of his article are worth noting because one may portend a degradation in the level of moral cohesion from ALB to ALBF.[58] Schneider's examination of moral disintegration concludes that the "ever expanding battlefield has a direct influence upon the entire process of troop morale."[59] This is a point that seems particularly pertinent to any assessment of ALBF efficacy.

Schneider's model of the empty battlefield argues that at all levels of war, the characteristics of future engagements will change as battlefield density becomes more and more a declining factor. The importance of his theory is that the moral domain becomes inversely proportional to the shrinking physical domain. Therefore, in ALBF, successful tactical operations will depend more on an increasing variety of moral factors at the expense of troop concentrations and weapon systems. Only a few military

thinkers have given adequate thought about what these moral factors are and which are predominant. One distinguished author who explored the particulars of the moral domain is the British military historian, John Keegan, who found that "what battles have in common is human."[60] The gist of his excellent book, The Face of Battle, is: "men struggle to reconcile their instinct for self preservation."[61] In his critical analysis of battle, Keegan finds solidarity and disintegration as the two main themes always in contention. His point is clear—"for it is towards the disintegration of human groups that battle is directed."[62] Nonlinear battle provides new opportunities to disintegrate the foe's moral cohesion and new threats to our own.

The object of nonlinear battle should now be clear. We must present the enemy with sudden, unexpected changes (attack from different directions by different means) or a series of changes to which he cannot adjust in a timely manner.[63] While ALB speaks adequately to this capability it does not hold it requisite to its success as a concept. This is, however, viewed as indispensable to ALBF's success. To ensure success ALBF needs to overcome the constraints, cybernetic and physical, which bind ALB from achieving nonlinearity . Given the technical and materiel enhancements and breakthroughs necessary to break these binds, there is both risk and cost (time and economic) in making ALBF a viable concept. This is why the importance of the moral domain cannot be misjudged. There is merit in the "judo" logic behind ALBF. Stated capability can become reality. The approach is to

focus ALBF on the enemy's moral cohesion, with the intent to unbalance him, inhibiting his ability to generate combat power.

When the enemy is physically unhinged he becomes morally unhinged. When this occurs, the soldier's mental image of battle is altered.[64] A mental image of ALB is an orderly battlefield divided into deep, close, and rear operations. Rationalizing the nonlinear ALBF battlefield is sure to demoralize anyone still ingrained with ALB's linear battlefield framework. For example, the nonlinear battle combines static and dynamic elements that will focus on the destruction of enemy forces rather than holding terrain.[65] Compared to ALBF, ALB is a terrain-oriented doctrine.

Furthermore, because of increased battlefield visibility and the weapons range to exploit such intelligence, the traditional balance between offensive and defensive operations will change. ALB regards defensive operations as being along a continuum of activity that is more static than dynamic. In ALB the psychological effect of defending could be therapeutic to the morale of the defender. The defender has chosen his ground and feels the security that the defenses affords. In contrast, ALBF regards the defense as mostly dynamic and seldom static. Combat operations, offense or defense, will be structured in an offensive nature.[66] The offensive orientation required by nonlinear forces in the defense goes beyond the disposition and movement of maneuver forces. There has to be new doctrine to explain how Army forces plan and conduct operations at all levels where offensive action is all things and the defense only a temporary condition.

Improvement in tactics, techniques, and procedures coupled with technological enhancements may well keep up as doctrine evolves. It is the human dimension that may not keep pace with the rapid changes in doctrine.

In ways not yet foreseen, new doctrine will influence the moral domain which in turn will affect soldier performance for better or worse. Unfortunately, not until new doctrine is battle tested will we truly understand its positive and negative effects on the human dimension. For example, on 30 November 1917, at Cambrai, France, the Germans conducted a large-scale counterattack which rapidly advanced their soldiers deep into British lines.[67] This attack marked the beginning of the German offensive tactics of 1918 known as "Hutier tactics".[68] Hutier doctrine demoralized opponents because it emphasized striking deeply with great impact on the enemy's moral domain which had theretofore been beyond harm's way. This is one example where the opponent's moral cohesion unwittingly became the object of a new tactical doctrine.

Understandably, "Hutier tactics" added a great deal of new stress to the opponents' moral domain. Throughout warfare there is usually a high and low side potential for stress related casualties on the battlefield. The tempo of ALBF battle has a cyclic nature of committing forces into and out of engagement with great rapidity. This presents a constant change in tension levels for soldiers and is recognized as one of the "most destructive strains a soldier may face—rapid transition from a secure environment to combat action."[69]

The degree of this moral discontinuity is a measurable effect in terms of soldier/leader performance. Even in ALB doctrine today, crews of our fixed and rotary wing aircraft may see several sorties in a day. These aviators are exposed between combat and refuge at rapid intervals as they move to battle from a relatively secure base for refit. Perhaps aviators are akin to future ALBF ground combatants who will presumably experience similar rapid transitions between combat and repose.

To meet these demands, the ALBF soldier will require more information to maintain a mental presence or awareness of his environment. Moral factors tend to work positively when adequate information of the local or general situation or of the commander's intent is known. Given the nature of nonlinear combat, there may be a negative influence at work. A. Kellett, in his seminal work, Combat Motivation, states, "In dispersed fighting the soldier is frequently unsure of what has just happened, what is happening, or what is likely to happen."[70] This is the kind of problem DuPicq, S.L.A. Marshall, and Keegan all wrestled with—soldier surprise and fear. To Michael Howard its importance was clear: "This is an aspect of military science which needs to be studied above all others in the Armed Forces: the capacity to adapt oneself to the utterly unpredictable, the entirely unknown."[71] ALB recognizes the dominant human factors which are necessary for success. ALBF cannot assume that the consequences of the human component apply equally as in ALB. To the contrary, they are probably of greater importance in ALBF.

There are two more important issues of stress as they relate between ALB and ALBF. First, as noted by Kellett, is "the problem of mental and physical exhaustion for commanders and troops. . . exacerbated. . .by increased technical capacity for sustained operations."[72] This concern is obvious now but quickly forgotten when battle tempo accelerates. ALB offers guidance on continuous operations and their impact on soldier/leader performance.[73] ALBF may need to consider moral culmination—how deep is the well of human energy when the battle cycle accelerates or skips a beat. Kellett offers an interesting finding that only complicates this dilemma of continuous operations in future warfare—"after periods of stress, men need about three days to recover fully."[74]

The second problem is the "absence in modern warfare of a period or a zone of safety in which troops could recuperate psychologically."[75] The nonlinear battlefield framework does not provide a defined rear area of operations. The battle zone might as well be the entire theater of operations given an enemy who could project an equal ALBF capability. Hence, the transition from ALB to ALBF carries additional considerations in locating areas to protect the force and provide continuity of operations.

In retrospect, the above paragraphs have focused on the implications of an expanding AirLand battlefield. Beginning with Schneider's theory about the empty battlefield, his findings conclude that the moral domain will continue to increase in importance as combat becomes evermore dispersed across the modern battlefield. Using this theory, we explored those moral factors

which would continue to dominate the soldier. Drawing several examples from Keegan and Kellett, we examined these battle tested moral factors to provide insight as to how they may effect the human dimension in transitioning from ALB to ALBF.

It is paltry philosophy if one lays down a new Doctrine in total disregard of moral values
Clausewitz

Tradeoffs Between ALB and ALBF

There are several moral tradeoffs that must be given serious consideration in adopting ALBF. Some of the motivation and courage issues have been identified. There are other tradeoffs, though, which may not be easily recognized at the tactical level. First, there is the continuing problem of harmonizing the soldier with technology. The second represents a rather recent development in warfare whereby a soldier can be rapidly thrust onto a strategic objective without the cost of his fighting first through tactical and operational objectives. Finally, there is the foreseeable tradeoff of building more flexible fighting units at the expense of units with habitual relationships. Each of these three issues represent a significant payment in the moral domain for the acceptance of ALBF.

The growth of technology, emerging and projected, will offer a potential for radically altering doctrine. It has been noted that dramatic advances in technology may lead to high demands on mobility, agility, and decision-making. Future doctrine will change, but must proceed at a rate equal to the changes in human

adaptation. It makes sense that there be a corresponding evolution of our training and education systems—but done in a manner that does not fall behind in the Army's haste to modernize.

The tradeoff between ALB and ALBF in harmonizing technology with the moral domain need not be strained. Indeed, ALB is our guide for action. FM 100-5 represents an evolutionary outgrowth of doctrine emphasizing the human dimension of battle. As doctrine, it never fixates on technology and weapons at the expense of the soldier. It should be noted that ALB only "provides the parameter within which technology should be pursued."[76] The importance of the human component under ALB doctrine is evident in such efforts as expanded basic training, COHORT unit organizations, new intensive Officer and NCO education programs (CAS3, SAMS, NCOES), battlefield simulators (MILES), and the Army's new training manuals (FM 25-100, Training the Force, and FM 25-101, Battle Focused Training). ALB is very much a forward-looking doctrine, but not one shaped by technology. The message to ALBF proponents is clear: Tactical techniques and procedures must continue to be validated by time and combat/training experiences, not through computer simulations. The human dimension cannot be quantified. We must carefully understand how technology may or may not improve soldier performance on the nonlinear battlefield.

In some ways, the problems faced in ALBF will be profoundly different from ALB. For the nonlinear battlefield, potential military targets may no longer fit into a distinct area of combat

operations. "Widely dispersed and largely undefined; the distinction between war and peace will be blurred to the vanishing point" on the nonlinear battlefield.[77] This represents a dimension of total war at the tactical level that Clausewitz could now consider as absolute.[78] The moral issue is two-fold. First, is the ALBF capability to collapse the enemy from within. In other words, the focus is a major shift from the enemy's front (includes first and second echelons) to his rear (where the moral impact is stronger). Leaders and soldiers will be confronted with critical targets that have perhaps more than tactical or even operational military significance. The increased complexity of nonlinear operations will require a new level of soldier awareness and/or intelligence in order to discriminate the high value target. ALBF must look toward "subordinates who can manage the challenge of minimal or no supervision in a rapidly changing environment" where some decisions will impact beyond operational objectives.[79]

The second moral issue is destructive firepower. With real-time intelligence fusion projected in ALBF, lethal effects on only decisive targets is the best approach to winning an engagement.[80] ALB is a fair balance between attrition-oriented (firepower) warfare and maneuver. Given the ALBF prospect of collapsing an enemy internally, there are ways of destroying front-line units other than physically.[81] Nonlinear actions occur concurrently throughout the depth of an area of operations. Very likely the influence of such actions can be felt against an enemy center of

gravity previously inaccessible. The moral challenge is seen as the skillful use of psychological operations coupled with firepower to capitulate the enemy.

A final point about ALB and ALBF tradeoff considerations is the loss of habitual relationships between units. It can be postulated that habitual relationships do add to a unit's moral superiority. Clausewitz certainly saw it as a moral factor— one that decreases or increases a unit's strength. It helps to "establish a close affinity with the will that leads and moves the whole mass of force. . .since the will itself is a moral quantity."[62] In ALB, there have been great strides made to develop and maintain within our fighting brigades and battalions strong habitual relationships among the combined arms. ALBF presents a situation where such linkages may become a thing of the past. Whether units are combat support (CS) or combat service support (CSS), ALBF will not match them with combat units in the habitual sense we know of today. The ALBF concept demands robust units with interchangeable building blocks of combat, CS, and CSS units. This may result in a moral shortfall between present doctrine and the ALBF concept. Unfortunately, there is no precise way to measure this "glue" that binds organizations during training and in combat. ALB clearly views habitual relationships between supporting and supported arms as part of the synergistic effect.

We began this section of the monograph stating that ALB is already a nonlinear warfighting concept. Given this premise, Part III explored how ALB and ALBF differ in their approach to

nonlinear warfare because of recognized changes in tomorrow's battlefield. One of the more dramatic changes will be in the moral domain. Yet, to those who know ALBF, this may not be so obvious. Most everyone focuses on the changes within the physical and cybernetic domains. To be sure, this perspective is probably technology driven since ALBF assumes technology to be a critical contributor to its success as a concept. This focus is at the expense of overlooking moral implications whose impact may be equal or greater to that of technology. The intent of Part III is to offer some insights into these moral issues.

PART IV

The Generation of Combat Power

Having discussed some aspects of nonlinear warfare's moral domain, it is necessary to investigate its practice as envisioned by the authors of the ALBF concept. Although a great deal of effort has gone into two recent official publications about the ALBF concept, both are broad-brush in their effort to look at the tactical employment of the Army in the 21st Century. Beyond each publication's examination of projected political, economic, and geopolitical environments, they only offer a snapshot of the future AirLand Battle at the operational/tactical setting focusing on its nonlinear condition.

At present, neither document articulates the key question: How to fight on the nonlinear battlefield—especially at the tactical level? For any critical analysis of the viability of the ALBF concept there is a requirement to describe in some degree the

tactics involved. Of equal importance, the examination of the moral dimension at the tactical level requires some idea about how one fights in a nonlinear fashion. As will be seen below, some effort in this regard has been made by the Soviets in their development of future tactics for nonlinear warfare.

The Soviet view of nonlinear combat has captured the imagination of the Red Army for some time.[83] Furthermore, they view the nonlinear battlefield as the future of warfare.[84] They are more candid in describing this future combat as a "revolution" in military affairs. The recent translations of their journals highlight a significant effort to examine this new warfighting doctrine down to platoon and squad level. This is a departure from our efforts in ALBF which tend to focus more on the strategic than on the operational and tactical levels. For a clearer understanding of the moral domain and ALBF, a quick overview of these Soviet initiatives at the tactical level is invaluable.

In a simplistic way, the Soviets have captured the essence of comparing linear warfare to nonlinear warfare by comparing football to soccer. Football, as in linear battle, poses opposing teams, face-to-face, along a yard-line. One team's objective is to gain ground while the other denies him the opportunity. Teams try to gain the initiative through aggressive activity, i.e., deep pass (strike), blitz/penetration of the line, fancy running patterns (envelopments/flanking movements), screen, defend, guard, etc. As fluid as this activity appears, there are distinct pauses for transition, i.e., huddles, kickoffs, time-outs, etc. In

contrast is soccer which, to the Soviets, is analogous to nonlinear warfare. Here "there is constant activity with players on the same team simultaneously defending, attacking, or making the transition (in rapid time) between the two."[85]

Present Soviet tactical discussions about nonlinear battle focus on defensive positions and methods and attack options.[86] Figure 3 illustrates a defense of a trefoil design.[87] It should be readily apparent that this type of configuration would be ideal for the unit(s) that cycle into their disperse/redisperse/or recovery phase for sustainment. It provides all-around fires, reduces field fortification effort and is simple to form in a hurry. Command and logistics originates at the locus point for the three vectors. Figure 4 shows how multiple trefoils might be employed.

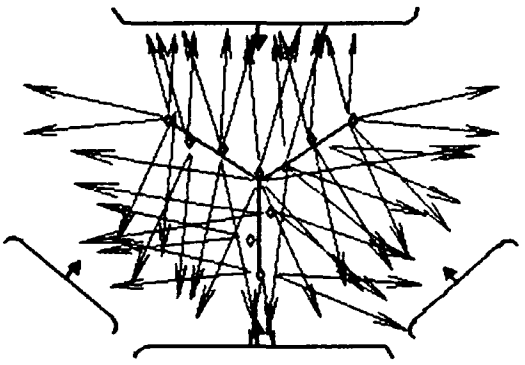

Figure 3
ALBF Company Defense/Sustainment

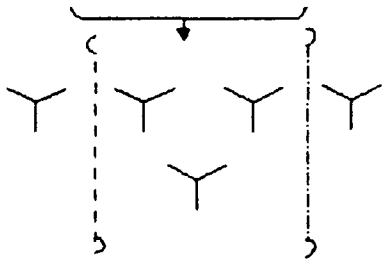

Figure 4
ALBF Battalion (+)

Although these figures offer only a glimpse of how the Soviets have been thinking about nonlinear warfare, it should prove helpful in evaluating some of the moral issues that impact on the execution of the figures described. Soviet articles continue to provide an open-source of their

thinking. Their level of effort in describing the tactical issues of nonlinear warfare covers the gamut of the battlefield operating systems. Let us return to some current U.S. Army thinking about the tactical nonlinear environment.

From the coordinating draft of the "Evolution of the Army," several traits are identified in response to three questions posed about nonlinear conditions.[88] Each of the answers cited in the figure below has some impact on the moral domain.

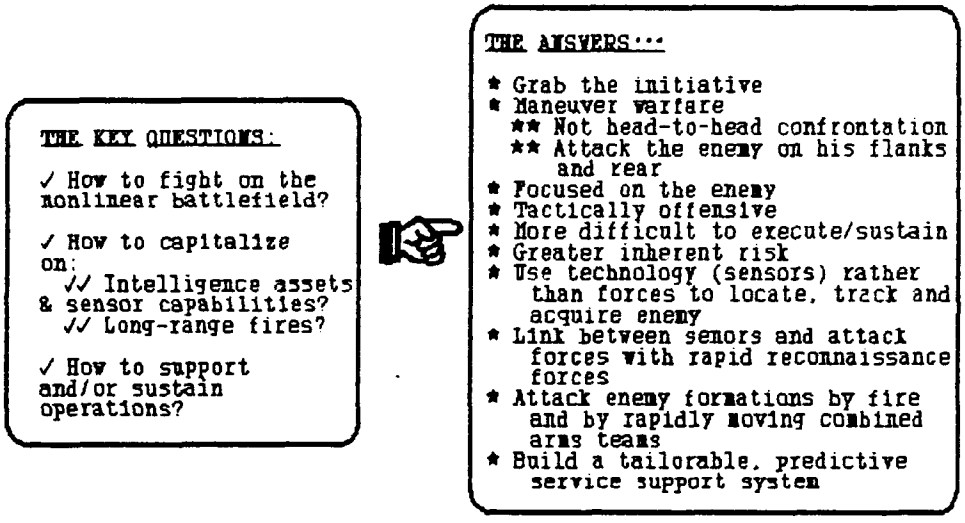

Figure 3
ALBF Characteristics

Keeping the above figure in mind, recall our investigation of the expanding battlefield and its implication that the moral domain will increase in importance. How will the ALBF attributes in figure 1 be applied at the tactical level on the future expanding battlefield? In nonlinear combat, the ALBF concept "envisions taking increasing advantage of emerging technology advances with an expected lower density of forces."[89] This

assumption is central to the concept of how ALBF will be prosecuted. The enemy will be engaged through a sequence of actions described in the concept as The Cycle.[90]

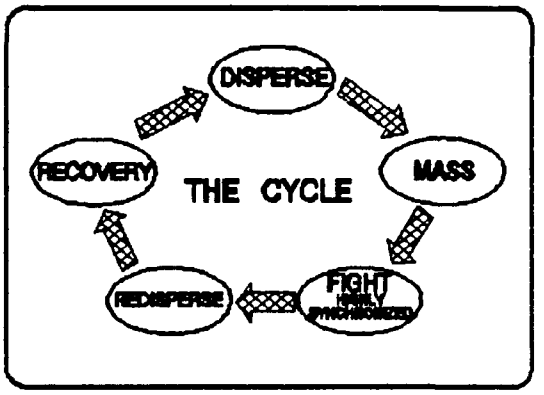

Figure 4
A Continuous Process

This cycle is meant to be continuous and, of course, repetitive. To the enemy, his force may appear to be under continuous attack while the attacker is decisively engaged for a short period of time before being relieved by other combat multipliers.[91] Just a cursory understanding of the battlefield concept discussed above garners several important questions about the moral domain. We will examine some of these issues later.

Combat ALBF forces will fight widely dispersed and be expected to concentrate their combat power for short periods of time. Tactical nonlinearity is defined as:

> A battlefield upon which the commander either by choice or the lack of maneuver forces to cover all the terrain, has placed his forces in dispersed, non-contiguous areas from which he can operate to destroy enemy forces within his area of operations. Emphasis is on destruction of the enemy force rather than terrain retention.[92]

It should be obvious that one critical difference between ALB and ALBF is the expectation to fight linear versus nonlinear. The statement, "Principal maneuver and fire support forces are dispersed and not locked into a line of contact with the enemy" best characterizes the tactics at all levels of the ALBF

organization.[93] Recall this paper's previous discussion that ALB "talked" expressly about its emphasis on nonlinear operations but in practice it was tied to linear operations because of political and technological constraints. Clearly ALBF is a radical departure from ALB if nonlinear operations are expected to become the norm. Likewise, there will be a corresponding change in how the human component adapts.

ALBF will demand leadership redundancy at all levels of command to assure the ability to conduct continuous operations. More than just training soldiers to a new doctrine, the implications are that the kind of leaders and soldiers desired on the nonlinear battlefield are highly specialized and probably very selective. Key leaders will not just be smart but exquisite, too.[94] The moral implications are clear. It is recognized that the stress leaders and soldiers will face in nonlinear warfare will be significantly more than for structured battle.[95]

In summary, current ALBF thinking proposes a rather significant shift in mindset when one considers going from a linear/defensive to a nonlinear/offensive approach to warfare.[96] While the characteristics of offensive operations now cited in FM 100-5 may not change, there will be changes to how they are phased. Variations will also occur in our forms of maneuver.

Moral factors will not yield to academic wisdom. They cannot be classified or counted.
Clausewitz

PART V

Testing the Dynamics of Combat Power

In his paper, "Understanding and Developing Combat Power," BG Wass de Czege presents an analytical framework useful for examining relative combat power between opposing forces.[97] Although the framework's "primary purpose is to teach military judgment," his methodology can be very useful "identifying... changes in fighting concepts and doctrine."[98] In this regard, Wass de Czege explains that his analytical framework can aid in assessing current doctrine (ALB) to that of emerging doctrine (ALBF) by looking at specific components in a way that maximizes combat power.[99] The Wass de Czege Combat Power Model is an excellent tool to conduct an evaluation of the nonquantifiable aspects of the moral domain. Since "combat power is defined as that property of combat action which influences the outcome of battle," we will examine only the relative weights of the human components of battle. With a slight modification to the model's four complex variables: effect of maneuver (M), effect of firepower (F), effect of protection (P) and effect of leadership (L), the analysis will focus on the following ratio:[100]

Relative Combat Power Ratio

$$L_{ALB}(F_{ALB}+P_{ALB}+M_{ALB}) : L_{ALBF}(F_{ALBF}+P_{ALBF}+M_{ALBF})$$

The above combat power analytical framework will compare the relative value of ALB and ALBF and compare the two as a ratio. Examining the subfunctions to each of the four basic variables Wass de Czege outlines in his model, only those second-order and

third-order abstractions which link closely with the moral domain are extracted. In this way, the task to compare ALB with ALBF means that our judgment will come from assessing only the moral components which maximizes each concept's combat power.

Firepower Effects

Firepower effects are a function of several variables: lethality of munitions, volume of fire, accuracy of fire, acquisition capability and flexibility of employment.[101] Though the moral domain interweaves throughout these variables, only the first three elements illustrate its most telling effects.

The first element to examine is munitions lethality. ALB doctrine has underscored the importance of affording the commander some options in how he can employ certain munitions because of their affects. The choice of FASCAM, DPICM, HE; etc., provides the ALB commander with some degree of control over the extent of destruction or suppression of the target. The moral function involves decisionmaking. In ALBF, the options expand significantly for the commander given projected munitions which are made more lethal because of their ability to hit a target precisely. With the knowledge that his weapons are more lethal, the moral impact for the commander is probably improved confidence in his weapons. This effect will be felt down to the soldier level:

> Among fighting men morale endures only so long as the chance remains that ultimately their weapons will deal greater death or fear of death to the enemy.[102]

There are obviously other influences to his decision-making such

as fewer weapons required and less munitions expended, so it is clear that the ALBF commander, like his ALB predecessor, must still consider battle calculus.

The second element is volume of fire. The rate of fire and the number of weapons employed are the key components of this issue. Today we consider ways to make sure the volume of fire is the product of combined arms and synchronized for full effect. ALBF will not change this requirement. What will change will be the moral issues articulated by S.L.A. Marshall in his analysis about "men against fire." The volume and improved accuracy of ALBF weaponry comes much closer than ALB to finding a solution to Marshall's request for more and better fire in battle.[103] There is no assumption being made that Marshall's fire ratio factor of 15 out of 100 men taking any action with their weapon will improve.[104] Rather, the conditions of a nonlinear environment, given formations as seen in Figure 1 and the psychological advantage of attacking the enemy at his soft spots and not head-to-head, may result in some increment of improvement to the ratio.

Surprisingly, Marshall's argument is that the tactical situation has no bearing on the matter.[105] The thrust of the problem is not tactics but changing one's "will" to become an active firer. The ALB approach to marksmanship training will not produce "willing firers" any different from S.L.A. Marshall's day. ALBF does not appear to resolve this problem either. Conditions on the nonlinear battlefield, with its tempo and cyclic nature, may even aggravate the problem. This is Marshall's key point,

"the whole moral strength of a fighting command pivots around men who are willing to employ their weapons."[106]

Our final element to examine in the firepower effect is accuracy of fire. In ALB units, soldiers and gun crews train to a high level of fire discipline. Despite this discipline, there are those moral factors (self-preservation, fear, etc.) which reduce both weapon efficiency and effectiveness. However, future weapon and munition designs may overcome some of these moral degradations to accuracy. Certain families of munitions will become smart and others will become brilliant in terms of their capability to kill a target without the human component being a factor. This issue is key. Conceivably, moral effects become less a factor in fire accuracy as technology improves. Whatever the shift, fear and self-preservation will still dominate as moral factors.

In sum, combat leaders in ALB or ALBF must concern themselves with moral effects of firepower. In this analysis, technology offers a positive incremental contribution toward destroying the enemy's moral cohesion. It appears, then, that the degree of moral ascendancy achieved through firepower in ALBF is potentially greater than for ALB.

Maneuver Effects

Wass de Czege discusses the functions of maneuver as: unit mobility, tactical analysis, management of resources, and command, control, and communications (C^3).[107] Again, the moral domain threads throughout these functions. Only the function of mobility will be examined since the human dimension is a significant part

of its effect. Components of effective tactical mobility are physical stamina/health of individuals and unit teamwork/esprit.

Physical stamina is an obvious moral issue that will effect the soldier in a variety of ways should we transition from ALB to ALBF. As noted earlier, war in the human dimension is physical exertion to each man's limit. FM 100-5 states unequivocally "that in battle, men and units are more likely to fail catastrophically than gradually."[108] ALB doctrine has gone to great lengths to find solutions to deal with the negative physical cumulative effects of fear, fatigue, etc., to prevent the moral unhinging of units. The question is, will there be more, less, or about equal exertion expected of combatants in nonlinear warfare? If one accepts the logic of comparing judo to boxing, then nonlinear is a means of engaging in combat with less physical exertion. The word "less" is obviously subject to criticism. ALBF describes short, hard battles where the advantage is ours before the attack. (i.e., surprise, strength, etc.). This is the "degree" to which physical exertion differs between ALB and ALBF. The logic is that through rapidity of action one's exposure to the "jaws of death" will be less than the methodical operations of linear warfare.

Stress is another element related to physical stamina. Recall the discussion about A. Kellett's "discontinuity" and problems of dispersed fighting. Given meeting engagements on the empty battlefield as the more likely form of contact, and expected lengthy movements (units widely dispersed must concentrate), soldiers will face high levels of stress. Added to this drama are

leaders who have the comfort of "perfect intell" whereas soldiers are overwhelmed with detailed situation reports (SITREPS) that cannot adequately be disseminated to the lowest levels. On a fluid battlefield, this magnifies what military theorists have cautioned about—isolation both physically and mentally.

Unit teamwork and esprit are two elements of morale which clearly contribute to combat power. Colonel Ardant Du Picq, who understood quite well the moral domain of battle, wrote about morale on the nonlinear battlefield. Essentially he saw the possibility for a smaller force able to defeat a superior force (object of ALBF) through domination of morale.

> With equal or even inferior power of destruction he will win who has the resolution to advance, who by his formations and maneuvers can continually threaten his adversary with a new phase of material action, who, in a word has the moral ascendancy. Moral effect inspires fear. Fear must be changed to terror in order to vanquish. If one can close with a superior enemy, the morale of your opponent will unhinge along with his loss of confidence while yours mounts.[109]

Morale, obviously, is a proportional function between you and your opponent. What you can do to reduce his spirit can increase yours. In linear warfare, the mental cohesion of your enemy can be harder to "unglue" given that he is usually presented with less than original tactics. The enemy tends to read American tactics like-a-book and knows very well your intentions. Today's Army does very well striking at the enemy physically but does poorly at striking him psychologically. Bill Lind supports this point and argues for doctrine that "puts the enemy on the horns of a dilemma."[110] Lind like the proponents of ALBF seek victory by

presenting the enemy "with sudden, unexpected change or a series of changes to which he cannot adjust in a timely manner."[111] Hopefully, moral ascendancy is not viewed as the panacea that makes ALBF appear superior to ALB. The impulse of morale going up or down lies in the realm of perception—how you see the enemy, how you think the enemy sees you, and, most important, how you see yourself. To date, ALB appears focused on the physical destruction of the enemy. Given that we've enjoyed a preponderance of firepower in nearly every war fought, it is easy to understand. ALBF offers the potential to maximize the combat advantage of morale over that of the enemy. Given that we'll be a smaller force in the near future, it is probably important that we elevate the importance of defeating the mental cohesion of the enemy by other means than by overwhelming firepower.

The bottom line of comparing ALB and ALBF shows the latter is potentially more stressful and more likely to cause unit discord. The issue is truly one of weakening moral cohesion. There are maneuver effects which, for the enemy, appear to decrease his moral cohesion to a greater degree in ALBF than for ALB. This, both DuPicq and Clausewitz would agree, is where the unit which achieves moral ascendancy wins.

Protection Effects

Wass de Czege states that maximizing combat power can be a function of concealment, exposure to engagement and damage limitation. Minimizing one's attrition through shielding his force by deception, speed, concealment, and depth are

characteristics common to both ALB and ALBF. What separates the two concepts is how each "counters the enemy's firepower and maneuver effects by making soldiers, systems and units difficult to locate, to strike, or to destroy."[112] The moral issue is clearly soldier protection. ALB doctrine puts most of the burden of soldier protection on the soldier. A soldier must camouflage and conceal himself as best he can to keep from being detected. He prepares his own fighting position in the defense and hopes that it is strong enough with overhead cover to withstand a Soviet-style barrage. In the offensive, his best protection is to see the enemy first and engage first before he can take protection measures. "In the attack of enemy positions, any means by which the morale of the enemy soldier can be affected will reduce his survivability."[113] The key is to unhinge his mental cohesion through the aforementioned maneuver and firepower effects. At the tactical level, ALB is every bit a battle of maneuver and attrition where protection for the soldier is speed, dispersion, and suppression of the enemy. However, DuPicq found such an approach not in keeping with his own. He argued that:

> The best tactics, the best dispositions were those that made easiest a succession of efforts by assuring the relief of ranks of units in action, actually engaging only the necessary units and keeping the rest as a support or reserve outside of the immediate sphere of moral tension.[114]

His thoughts tend to describe the tactical feature of protection for the ALBF concept: successive, rapid engagement with minimum exposure of units.

The one difference between ALB and ALBF that appears obvious

is how each concept offers protection in contact. In ALB, contact can usually mean a committed force engaging with the enemy until one or the other opponent reaches a culminating point—usually logistics, sometimes materiel, seldom personnel. ALBF future seeks to avoid the attrition battle and accept risk in a short but violent battle.[115] Its' battle cycle will offer protection at that critical sequence when a synchronization pass (handoff) with another attack force is made so that the unit can recover its moral cohesion and gain protection as it disperses.

Protection effects offer a positive influence to that doctrine which can limit a soldier's exposure to combat. The risks in ALBF come in a more violent attack but are offset by a shorter exposure to such combat. ALB, despite its balance of maneuver and firepower, still appears as attrition warfare, particularly on a linear battlefield.

Leadership Effects

Leadership is a function that is a moral force in itself. Clausewitz saw three principal moral elements, one of which, skill of the commander, focused directly on the leadership effect. If there is one combat power effect that probably is best prepared for transition to nonlinear warfare, it is leadership. What leaders are asked to do now in ALB is not much different than for ALBF. Fighting the nonlinear battle will require leaders "to be able to assess developing situations rapidly and to see through confusion to seize opportunities without being enmeshed in detail."[116] This requirement is the same asked of ALB leaders.

Clearly the one area for leaders than will be a moral domain issue is managing time and space. For ALBF, the leader of tomorrow is going to have to change his mindset to commanding within a much larger space, while subject to operating under compressed times. However, we can expect a command and control package to assist him in his rapid decision-making.

Another issue raised earlier is continuous operations and its leadership effect. Clearly, a leader who can adjust his force to a tempo where he can continue his ALBF cycle without ever pausing would be ideal. This is also unrealistic. However, there will be a definite impetus, as noted by Bill Lind, to keep orders brief and the tempo fast in the future.[117] Already ALB doctrine has done much of the groundwork to create such capable leaders.

Perhaps the real difference will be found in finding leaders who can unhinge an enemy's moral cohesion without battle. This is the true skill of a commander. According to Sun Tzu, "for to win one hundred victories in one hundred battles is not the acme of skill. To subdue the enemy without fighting is the acme of skill."[118] Like Sun Tzu, other theorists such as DuPicq, Saxe, Marshall, and Lind have attempted to define a doctrine based on the moral element. Clearly that kind of leadership effect requires an acme of skill that may, just may, arise from ALBF.

Concluding Thoughts

The essence of nonlinear warfare is its approach to treat tactics and operations as a thought process where small, hard-hitting forces <u>give</u> battle only where and when a victory will

strike directly at the enemy's center of gravity.

The Army is challenged by nonlinear warfare, but it is also given an opportunity. It is the opportunity to change the Army without losing sight of where it is heading. The ALBF concept sets the right priority in seeing "the soldier perspective in all processes as the most important aspect of what we are doing."

The results of comparing ALB to ALBF caution the adoption of a new concept without an adequate redress of the moral domain. The moral underpinnings are strong in ALB. Every discussion about ALBF in the combat power ratio model was conjecture when it came to the human component. Only by looking at current doctrine or following theory could one pull together a thought or two about the moral implications of ALBF. For those who won't rest or be satisfied until a winner is declared, it is: AirLand Battle. ALBF looks great and it talks a great deal about combat potential--but that's all it is—potential. The argument is finally posed: Given the human dimension of battle, does ALBF appear reasonable or viable as a concept? The answer is not yet. Don't proceed too much further without a thorough scrub of the concept in assessing the human dimension. Because it is not adequately discussed, it remains an Achilles' heel of the new Umbrella Concept.

I am tempted to declare dogmatically that whatever doctrine the Armed forces are working on now, they have got it wrong.
Michael Howard

ENDNOTES

1. Carl Von Clausewitz, On War, (New Jersey, 1976), p. 97. Clausewitz spoke at length about the immutable bond of physical and psychological factors. he stated in no uncertain terms that despite his treatment of both in his book, which factor was predominant: "One might say that the physical seems little more than the wooden hilt, while the moral factors are the precious metal, the real weapon, the finely-honed blade." (Ibid., p. 185.)

2. Ibid., p. 184.

3. Ibid., pp. 231-234.

4. Huba Wass de Czege, "Toward A New American Approach to Warfare," (1982), p. 24.

5. Ibid., p. 11.

6. Ibid.

7. Ibid.

8. Ibid., p. 21. Wass de Czege developed a paradigm to examine the three elements of warfare (soldier, weapons, doctrine) which he felt have always been fundamental to successful armies and military excellence. The soldier is the human or psychological dimension which appears to be a rather stable component in light of the evolution of modern warfare. Weapons represent a volatile physical component given its linkage to the changes that technology brings. Sound doctrine is the "glue" holding the physical and psychological components together. "Doctrine is the body of ideas telling how men use weapons to achieve the greatest possible effect." (Ibid. p. 7.) Wass de Czege found that only a harmonious relationship between the three components can assure an army that it is prepared for future war. The goal is to achieve synergy between soldiers, weapons, and doctrine.

9. Maurice de Saxe, "My Reveries Upon the Art of War" in Brigadier General T.R. Phillips (ed.), Roots of Strategy, (Pennsylvania, 1940), p. 190.

10. Wass de Czege, "Toward a New American Approach to Warfare," p. 8.

11. Ibid.

12. The following two documents are representative of this point of view: "Evolution of the Army," (Final Coordinating Draft), (Fort Leavenworth, KS, 11 September 1990) and "AirLand Battle-Future Umbrella Concept," (Final Coordinating Draft), (Fort Leavenworth, KS, 10 September 1990).

13. Sun Tzu, "On the Art of War" in Samuel B. Griffith (Translator) Sun Tzu: The Art of War, (New York, 1971), p. 100.

14. Clausewitz, On War, p. 566.

15. Michael Howard, "Military Science in an Age of Peace," (SAMS Reprint of Chesney Memorial Gold Medal Lecture given on 3 October 1973), p. 53.

16. James J. Schneider, "Theoretical Implications of Operational Art," (Military Review), (Fort Leavenworth, KS, September 1990), p. 21. Mr. Schneider proposes to further the dialogue on the future trends in operational art. On pages 25-26, he identifies twelve characteristics of future operational art. He notes, too, that "in order to participate intelligently in this debate, every officer ought to develop a theoretical and historical understanding of operational art." (Ibid., p. 27.)

17. Gordon A. Craig, "Delbruck: The Military Historian," in Makers of Modern Strategy from Machiavelli to the Nuclear Age, Peter Paret (ed.), (New Jersey, 1986), p. 341.

18. Schneider, "Theoretical Implications of Operational Art," pp. 21-22.

19. Ibid., p. 22.

20. The terminology of "gray objectives" was coined by GEN William DePuy to mean objectives whose true military value as a decisive point or center of gravity is in doubt because of limited intelligence about its composition. DePuy's example to show how anticipated ALBF intelligence assets can take the Army in new directions is seen in WW II prior to the Battle of the Bulge. Because the Allies lacked an accurate picture of German army dispositions, Allied forces had to be deployed along the entire front (Flanders to the Alps). This circumstance allowed Hitler's army to achieve initial success in his Ardennes counteroffensive (December 1945) because Allied lines were so thin with combat units. Knowing where the enemy is can keep forces strong where they need to be and supports the principles of economy of force and mass.

21. The change in hardware and materiel capabilities that technology brings to battle typically offers only a fleeting potential to the developer's combat power. Many times this potential is not brought to its maximum because doctrine has yet

to adapt (Wass de Czege's Harmony of Soldiers, Weapons, and Doctrine) or its a technology of "isolation" whereby it has yet to "fit" in with other systems so that a synergistic effect may be achieved. Finally, with every advance in technology there has been a counter which may reduce, defeat, or negate the original's purpose.

22. Roy E. Appleman, "South to the Naktong, North to the Yalu" in U.S. Army in the Korean War, (Washington, DC, 1961), p. 108.

23. Ibid., p. 200.

24. Ibid.

25. Ibid.

26. Ibid., p. 201.

27. Ibid.

28. Ibid.

29. Ibid.

30. Ibid., p. 202.

31. Ibid.

32. Clausewitz, On War, p. 226.

33. Ibid., p. 231.

34. Military theorists have written extensively on this subject of soldier motivation. Ardant Du Picq's Battle Studies, Marshall De Saxe's Reveries on War, Brigadier General S.L.A. Marshall's Men Against Fire, and John Keegan's The Face of Battle, all recognize that what battles have in common is human. Keegan perhaps says best in his view about battle versus soldier motivation "above all it is always a study of solidarity and of disintegration—for it is towards the disintegration of human groups that battle is directed." (Keegan, The Face of Battle, p. 303).

35. Saxe, Roots of Strategy, p. 190.

36. Clausewitz, On War, p. 231.

37. Wass de Czege, "Toward A New American Approach to Warfare, p. 21.

38. Ibid., p. 24.

39. Ibid.

40. Clausewitz, On War, p. 101, and Wass de Czege, "Toward A New American Approach to Warfare," p. 10. Clausewitz spoke to the need for military genius in those who practice the art. He recognized that courage now and then may overcome average intelligence. ALB accommodates those of us who possess middle-order acumen, yet acknowledges that "today's junior officers need to acquire the perspectives of generals of earlier days" (Wass de Czege). ALBF may require even more of the junior officer than ALB does. Again, Wass de Czege notes: "The complex nature of modern weapons and supporting systems requires a vast amount of technical knowledge of those who lead modern armies, and as the pace of innovation accelerates, so does the requirement to understand not only the employment of new weapons but how to marshal the increased logistics tail required to support them." For the future, exquisite intellect is the expected not the exception.

41. William S. Lind, Maneuver Warfare Handbook, p. 2.

42. Sun Tzu, The Art of War, p. 134. The potential of speed can only be fully realized when, as Sun Tzu stated, one takes advantage of the enemy's unpreparedness; travels by unexpected routes, and strikes him where he has taken no precautions. For a full appreciation of Sun Tzu's insight, B.H. Liddell Hart's concept of the "indirect approach" in his work, Strategy, recognizes speed as the critical component in the prosecution of battle.

43. Wass de Czege, "Toward A New American Approach to Warfare," p. 22.

44. In hindsight, FM 100-5 recognizes *rapidity* as a common doctrinal tenet of successful armies of the past. However, *rapidity* was never adopted in ALB doctrine, perhaps because of recognized materiel and technology constraints. ALB never intended to demand things of soldiers which would prove difficult to execute in war. Should *rapidity* be doctrinal, then its impact on the tenets may present new challenges. These challenges would essentially enhance those characteristics we deem capable of achieving today. In short, we need to practice what we preach.

45. Lind, Maneuver Warfare Handbook, p. 96. Also, Wass de Czege, "Toward A New American Approach to Warfare," p. 25.

46. S.L.A. Marshall in his seminal work, Men Against Fire, wrote extensively about soldier performance in combat. His well known conclusion found that fighting soldiers seldom fight—even in the best of units. When only 20-25 percent (best case) of the active firers use their weapons, this implies a performance shortfall within any unit. Marshall cites the moral effect as the culprit which paralyzes the soldier under fire. (Men Against Fire, pp. 54-57, p. 81.)

47. Wass de Czege, "Toward A New American Approach to Warfare," p. 25.

48. Ibid.

49. Preliminary Coordinating Draft of FM 101-5, Command and Control for Commanders and Staff, p. iii (CGSC-CTAC Memorandum dtd 24 August 1990, Subject: Chapter 1, FM 101-5, contained an enclosure with a restructured "Introduction" to this new FM. A publishing date for a Coordinating Draft has yet to be established.)

50. Wass de Czege, "Toward A New American Approach to Warfare," p. 25.

51. Martin Van Creveld, Supplying War, (New York, 1977), p. 200.

52. FM 100-5 addresses the issue of logistics but fails to adequately state, in concept, how our logistic capabilities are to meet the challenges of consumption. Either our forces are too austere, (Light Infantry), or too heavy and require prepositioning of stockages. A contingency army requires an ability to saturate the battlefield with supplies across large distances rapidly. Clearly, our sustainment ability is limited in each case. Wass de Czege noted this shortfall:

> "Now that our doctrine envisions increased offensive maneuver away from our bases of supply, the shackles of the logistic system are felt more keenly. High rates of fuel consumption of tactical vehicles are rapidly translated into tonnages which need to be moved with currently inadequate transport. To redress this balance merits top priority if the Army is serious about its new doctrine." (Toward A New American Approach to Warfare," p. 18.)

53. Wass de Czege, "Toward A New American Approach to Warfare," p. 18.

54. Creveld, Supplying War, p. 157.

55. FM 100-5, Operations.

56. William S. Lind's definition of maneuver tactics closely parallels the concept of nonlinear battle. He sees such tactics as a mental process anticipating events rather than reactive—event driven actions (Judo versus Boxing) (Maneuver Warfare Handbook, p. 12). This is what ALBF says about the impact of doctrine: "AirLand Battle tenets and imperatives are fully applicable; they may vary in importance at different times because of "cyclic" nature of nonlinear operations" ("Evolution of the Army," p. 29). To view how the tenets of ALB and ALBF may vary, see appendix on page 53.

57. James J. Schneider, "The Theory of the Empty Battlefield," (SAMS Reprint - Course 1 Readings), p. 9.

58. Ibid., p. 15. Schneider's framework for moral cohesion postulated moral cohesion as the unity of will (I) being proportional to the density of troops (D) times the number of leaders (L) and where m is some constant of proportionality.

(a). $I=mDL$

Examining ALB to ALBF, one can make the following comparison:

(b). $I_{ALB}=mD_{ALB}L_{ALB} : I_{ALBF}=mD_{ALBF}L_{ALBF}$

Where warfare is nonlinear, density assumes a lower value because tactical formations are more dispersed. In this example, assume the number of leaders and the value of m are equal:

$$D_{ALB} > D_{ALBF} \;\&\; L_{ALB} = L_{ALBF}$$

(c) Therefore, $I_{ALB} > I_{ALBF}$

59. Ibid.

60. John Keegan, The Face of Battle, p. 305.

61. Ibid. Also, Schneider, "Theory of the Empty Battlefield," p. 14.

62. Ibid.

63. Lind, Maneuver Warfare Handbook, p. 5.

64. Anthony Kellett, Combat Motivation, (Boston, 1982), p. 217.

65. "AirLand Battle-Future Umbrella Concept," p. 28.

66. Ibid.

67. Timothy T. Lupfer, "The Dynamics of Doctrine: The Changes in German Tactical Doctrine During the First World War," (Leavenworth Papers No. 4), (Fort Leavenworth, Kansas, July 1981), p. 40.

68. Ibid., p. 42.

69. Kellett, Combat Motivation, p. 278.

70. Ibid., p. 220.

71. Howard, "Military Science in an Age of Peace," p. 59.

72. Kellett, Combat Motivation, p. 238.

73. FM 100-5, Operations, p. 26.

74. Kellett, Combat Motivation, p. 275.

75. Ibid., p. 219.

76. Wass de Czege, "Toward A New American Approach to Warfare," p. 21.

77. William S. Lind, Cpt. John Schmitt (USMC), Col. Joseph W. Sutton (USA), Col. Keith M. Nightengale (USA), LTC G.I. Wilson (USMCR), "The Changing Face of War: Into the Fourth Generation," Military Review, (October 1989), p. 5.

78. On the nonlinear battlefield, targets are no longer a semi or permanent fixture. Targets will expand or contract in size, move, change direction or orientation faster than prior planning can account for. . Hence, nonlinear operations will present new dilemmas and opportunities to the tactical commander in target selection. All in all, the object of any operation must be to unbalancing the enemy's moral equilibrium.

79. Ibid., p. 7.

80. DuPicq, "Battle Studies," Roots of Strategy, p. 151. DuPicq expressed the following idea: if you succeed in locating your opponent, you will succeed in getting to him. This "collection of intell increases the dominating moral effect of fear" when the enemy believes in your ability to locate him.

81. DuPicq, "Battle Studies," Roots of Strategy. p. 149. To varying degrees, Sun Tzu, S.L.A. Marshall, and Bill Lind all share a similar view about subduing an enemy's army through moral means. DuPicq's point is that the "moral effect does not come entirely from destructive power, real and effective as it may be. It comes, above all, from its presumed threatening power, present in the form of reserves threatening to renew the battle, of troops that appear on the flank, even of determined frontal attack."

82. Clausewitz, On War, p. 184.

83. Lester W. Grau, "Soviet Non-Linear Combat: The Challenge of the 90's, (Draft), (Soviet Army Studies Office, September 1990), p. 4.

84. Ibid., p. 6.

85. Ibid., pp. 3-4.

86. Ibid., pp. 7-9.

87. Ibid., p. 9.

88. CAC Final Coordinating Draft, "Evolution of the Army," p. 17.

89. Ibid., p. 19.

90. Ibid.

91. To help visualize the notion of a "synchronization pass" consider the following: In the arrangement of combat activities in time and space, assume the indirect fire attack initiates battle while ground or air forces maneuver. A handoff is executed from the commander of supporting fires to the ground attack commander. The ground force, supported by air and additional indirect fires, fights a sharp but rapid engagement until a predetermined culmination point (length (time) of action; losses in personnel or materiel; enemy reaction, etc.) is reached. This is the moment of the synchronization pass wherein the ground force commander hands back the battle to the commander of supporting fires who will fight the battle until a subsequent ground attack or air attack force is committed to battle. This is an iterative process until the mission is accomplished.

92. Ibid., p. 18. The author has inferred "destruction" to be by both physical and moral means. "Battle, therefore. . .is essentially a moral conflict" (Keegan, The Face of Battle, p. 302).

93. Ibid.

94. Exquisite connotes an attribute to be sought in select ALBF leaders. There are two distinct functions that ALBF commanders must be acutely perceptive in when exercising judgment and decisionmaking. First, is a faculty for *timing*. Critical will be the ability to discriminate developing situations rapidly and deciding which activities or events must occur in sequence or be given priority of action. To discriminate means that only pertinent information is digested and only vital activities merit attention. The bright commander may be able to absorb a vast amount of information, but the exquisite leader will filter the most important and absorb less. Second, is an acumen for *seizing opportunities*. Battles are won and lost on opportunities taken or forsaken. Required is a keen ability to recognize where real potential is to be gained. Of many opportunities afforded to the ALBF commander, which opportunity offers the greatest payoff?

95. CAC Final Coordinating Craft, "AirLand Battle-Future Umbrella Concept," p. 43.

96. To see how much of a shift, see appendix on page 53.

97. Wass de Czege, "Understanding and Developing Combat Power," p. 15.

98. Ibid., p. 5.

99. Ibid., p. 8.

100. Ibid., p. 15.

101. Ibid., p. 23.

102. Marshall, Men Against Fire, p. 67.

103. Ibid., p. 23.

104. Ibid., p. 57.

105. Ibid., p. 68.

106. Ibid., p. 61.

107. Wass de Czege, "Understanding the Developing Combat Power," p. 26.

108. FM 100-5, Operations, p. 26.

109. DuPicq, "Battle Studies," Roots of Strategy, p. 150.

110. Lind, Maneuver Warfare Handbook, p. 20.

111. Ibid., p. 5.

112. Wass de Czege, "Und standing and Developing Combat Power," p. 30.

113. Ibid., p. 34.

114. DuPicq, "Battle Studies," Roots of Strategy, p. 79.

115. CAC Final Coordinating Draft, "Evolution of the Army," p. 18.

116. Lind, Maneuver Warfare Handbook, p. 28. This is also what Wass de Czege deemed as the most important of leadership effects—the understanding of battle. "The leader must be able to anticipate and minimize the normal confusion of battle." ("Understanding and Developing Combat Power," p. 33.)

117. Ibid., p. 94.

118. Sun Tzu, The Art of War, p. 77.

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TENET	ALB	ALBF
INITIATIVE	• Recognized as the greatest advantage in battle. • Well defined, thoroughly understood objectives. • Independent action when C^2 is broke. • Aggressive, independent action by subordinates.	• Setting or changing the terms of battle at will—dictate engage/repose. • Clearly understood objectives, lucid understanding of mission. • Independent actions-not the exception. • Auftragstaktik
DEPTH	• Space, resources, time. • Rear, close, deep (spatial oriented). • Deep battle means: air & long range fires.	• Time, resources, space. • Battle area, tactical support area, detection area (time oriented). • Deep battle means: air, long range fires & ground.
AGILITY	• Acting faster than the enemy. • Use of maneuver to concentrate friendly strength and avoid enemy stength. • Predictive intelligence. • Imaginative planning. • Shift designated main effort as appropriate.	• Recognized as the greatest advantage in battle. • Emphasis is to swift displacement of forces—concentrate suddenly from wide dispersion. • Fused (see enemy as he sees you) intelligence. • Exquisite planning. • Multiple thrust points of effort.
SYNCHRONIZATION	• Combines economy of force & unity of effort. • Phases-sequenced • Head-to-head destruction. • Combined arms— strike at enemy physically first, then psychologically. • Concentrate combat power (time & space). • Sustain the fight. • Culmination point estimated. • Coordinated linkage of deep, close, & rear.	• Independent attacking teams calling for decentralization & initiative. • Activities-sequenced & simultaneous. • Total destruction by decisive blows from the flanks and the rear. • Combined arms seeking to shatter the moral cohesion of enemy, not just destroy troops and equipment. • Concentrate cbt pwr (less time/more space). • Predictive CSS capability w/ surge requirements. • *Built-in* culmination point. • Decoupled.